

COLOR TO BLACK AND WHITE CONVERTER

ABSTRACT

A continuously variable screening tool is used to generate a unique texture pattern for every color in a multicolor image. The continuously variable screening tool allows a single colorant version of the image to be generated with less information loss than typically suffered in the multicolor to single color transformation process. The continuously variable screening tool is generated by blending patterns from a set of reference screens. The reference screens are associated with selected reference colors in, for example, a machine independent color space. A calculated screen is generated through a weighted blend of reference screens located near the arbitrary color in the machine independent color space. Typically, the weights depend on the distance the arbitrary color is from each of the reference colors. The screens consist of arrays of threshold values. Each threshold value is associated with a dot position and an image pixel. Where a pixel value exceeds the associated threshold value, provision is made to place a mark in the associated dot position. An image processor operative to carry out the method comprises a continuously variable screening tool generator. An embodiment of the image processor includes a reference screen storage device and a screen blender.

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